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1947

Service Paper

A central sound system.





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SERVICE PAPER  
A CENTRAL SOUND SYSTEM

An Educational Device to Aid  
Teachers and Administrators

Submitted by

Katherine Louise Nangle  
(B.Ed. Boston College, 1938)

In partial fulfillment of requirements for  
the degree of Master of Education

First Reader: Dr. Abraham Krasker, Assistant Professor of  
Education.

Second Reader: Dr. Worcester Warren, Professor of Education.

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## A CENTRAL SOUND SYSTEM

### AN EDUCATIONAL DEVICE TO AID TEACHERS AND ADMINISTRATORS

#### Definition

The central sound system is a means of communication using the principles of the radio and the telephone, and consists of a central control panel, one or more microphones, loud-speakers, recording and play back equipment, which provides individual or simultaneous communication facilities to any or all classrooms.

The central control panel receives and distributes radio broadcasts, distributes programs originating in the building, or amplifies and distributes transcriptions to all rooms equipped with loud-speakers. Microphones may be located in the principal's office, in the control room, in the auditorium, or in the gymnasium, according to the needs of the individual school.



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## Purpose of Study

The purpose of this thesis is, first, to offer suggestions to administrators who are considering the installation of a central sound system; second, to study current practices in the use of central sound systems in the city schools of New England; and third, to suggest methods to improve and extend the use of a central sound system.

State	School	Principal
Massachusetts	Woburn High School	John E. Hooper
"	Welles High School	Charles Jordan
Massachusetts	Marion Street School	Ferry Fortman
"	Fifth Street School	Wendell Mayhew
New Hampshire		
Connecticut	Windsor Jr. High	Harold Alexander



## Purpose of Study

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## CHAPTER II

## Survey of Central Sound Systems

A questionnaire was sent to the Superintendent of Schools of the eighty-two cities in New England.

This questionnaire asked for

1. The names of the schools in their city that were equipped with a central sound system.
2. The names of the principals of these schools.
3. Permission to contact the principal for further information.

Fifty three superintendents answered this questionnaire; twenty-three had no central sound systems, thirty superintendents listed the names of the schools and the names of the principals. A total of fifty-one sound systems were found to be installed in these thirty cities.

Maine	School	Principal
Auburn	Webster High School	John L Hooper
"	Walton High School	Charles Jordan
Bangor	Garland Street School	Perry Wortman
"	Fifth Street School	Russell Morgrage
New Hampshire		
Concord	Rundlett Jr. High	Samuel Richmond



# Survey of Central Sound Systems

A questionnaire was sent to the Superintendent of Schools of the thirty-two cities in New England.

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3. Permission to contact the principal for further information.

Fifty-three superintendents answered this questionnaire; twenty-three had no central sound system, thirty superintendents listed the names of the schools and the names of the principals. A total of fifty-one sound systems were found to be installed in these thirty cities.

Principal	School	Name
John A. Cooper	Wester High School	Andover
Charles Jordan	Wester High School	"
Harry Newman	Central Junior School	Barnes
Russell Moraga	Fifth Street School	"
Samuel Richmond	Wendell Jr. High	New Hampshire Concord

Portsmouth	Portsmouth Jr. High	R. I. Beal
Rochester	Spaulding High School	John M Cotton
Vermont		
Burlington	Taft School	C. C. Carter
Montpelier	Union School	W. H. Clossey
Massachusetts		
Arlington	Arlington Sr. High	Herman Gammons
"	Cutter School	Flora B Bradford
Belmont	W. Brook School	Eva Burns
Brookline	Brookline High School	Wilfred H Ringer
Fitchburg	Fitchburg " "	James Chalmers
Holyoke	H. B. Lawrence School	James Bower
Lowell	Lowell High School	R. A. Sullivan
Lynn	English High "	Thomas Whalen
"	Connery School	Arthur Marshall
"	Harrington School	Margaret Cahill
"	Highland School	Gladys Chase
Malden	Malden High School	John B Matthews
Medford	Vocational School	
New Bedford	New Bedford High School	A. R. Dorman
Newton	Warren Junior High "	Paul C Scarborough
"	Day Junior High School	Russell V Burkhardt
Somerville	Southern Junior High	Raymond Shepherd
"	Western Junior "	George R Coyne
Watertown	Phillips School	Earl Nelson





## Rhode Island

Cranston	Cranston High School	C. Herbert Taylor
Providence	Nathaniel Greene School	Wm. C Harrington
"	O. H. Perry School	Richard Bennett
"	R. Williams School	Earl C Webster
"	G. Stuart School	Norman H Whitehead
"	Hope High School	Howard D Wood
"	Mt. Pleasant High School	Joseph H. Stannard
"	Central High School	Charles H Abbott

## Connecticut

Bridgeport	Harding High School	Frank J McKee
Greenwich	Greenwich High "	Andrew Bella
"	Old Greenwich School	Ward Satterlee
Hartford	Dominick Burns School	E. B. Judd
Norwalk	Norwalk High School	Eric Malmquist
"	Center Junior High	Albert MacMurray
"	Franklin " "	George R. Brunjes
"	Columbus School	Elizabeth Donahue
"	Roosevelt "	Florence Banks
"	Rowayton "	Angelina Wakeman
"	Tracey "	Louise Martin
Stratford	Stratford High School	Donald Fowler
Torrington	Southeast School	Julia Foss
W. Hartford	Charter Oak School	Bernice Patterson
"	Sedgwick Elem. School	Marie Lipps
"	" Junior High	P. D. Graybeal





My dear Sir:

I am making a study of the use of central bank  
systems (public storage systems). I hope as a  
result of this study to make a summary of current  
practices, which I shall make available to anyone  
interested.

Will you please have the attached card filled  
out and returned?

Questionnaire sent to the  
Superintendent of Schools  
in eighty-two New England cities.

E. Andrew Fangle

Lynn Public Schools

Lynn, Massachusetts



Questionnaire sent to the  
Superintendent of Schools  
in eighty-two New England cities.

My dear Sir:

I am making a study of the use of central sound systems (public address systems). I hope as a result of this study to make a summary of current practices, which I shall make available to anyone interested.

Will you please have the attached card filled out and returned to me.

K. LOUISE NANGLE  
Supervisor in Charge of  
Visual Aids  
Lynn (Mass.) Public Schools



K. Louise Nangle  
Lynn Public Schools  
Lynn, Massachusetts





We have  
 We have no central sound systems in the following  
 schools:

	School	Prin.
_____	"	_____
_____	"	_____
_____	"	_____
_____	"	_____
_____	"	_____
_____	"	_____
_____	"	_____

You have my permission to contact these schools.

(Signed) \_\_\_\_\_ Supt.

City & State \_\_\_\_\_



THIS SIDE OF CARD IS FOR ADDRESS

Superintendent of Schools



THE  
UNITED STATES  
OF AMERICA



THE  
UNITED STATES  
OF AMERICA

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UNITED STATES  
OF AMERICA

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UNITED STATES  
OF AMERICA

THE  
UNITED STATES  
OF AMERICA

2 1

Name of School \_\_\_\_\_

City and State \_\_\_\_\_

This questionnaire was compiled and  
sent to the principals of fifty schools.



This questionnaire was compiled and  
sent to the principals of fifty schools.

Name of School \_\_\_\_\_

City and State \_\_\_\_\_

We have a central sound system composed of:

<u>No</u>	<u>Yes</u>	
_____	_____	public address system to _____ (or outlets)
_____	_____	radio unit
_____	_____	recording unit
_____	_____	recording playing unit

How many channels, i. e., how many programs, can you distribute at the same time to selected rooms? \_\_\_\_\_

Where is the control panel located (in the principal's office, separate control room, or other location)?

How many microphones do you have? \_\_\_\_\_

In how many locations may these be attached?

Please check: \_\_\_\_\_ principal's office  
 \_\_\_\_\_ control room  
 \_\_\_\_\_ stage of auditorium  
 \_\_\_\_\_ gymnasium

Add others:



Name of School \_\_\_\_\_

City and State \_\_\_\_\_

We have a central sound system composed of:

	Yes	No
Public address system to _____ (or outlets)	_____	_____
Radio unit _____	_____	_____
Recording unit _____	_____	_____
Recording playing unit _____	_____	_____

How many channels, i. e., how many programs, can you

distribute at the same time to selected rooms? \_\_\_\_\_

Where is the control panel located (in the principal's

office, separate control room, or other location)? \_\_\_\_\_

How many microphones do you have? \_\_\_\_\_

In how many locations may these be attached? \_\_\_\_\_

Please check: \_\_\_\_\_ Principal's office

\_\_\_\_\_ Control room

\_\_\_\_\_ Stage of auditorium

\_\_\_\_\_ Gymnasium

Add others: \_\_\_\_\_

Do you have one way communication with classrooms, or does the loudspeaker in the classroom also function as a microphone, and provide two way communication?

Our public address unit is used by the principal for:

Who operates the central sound system?

Have you a formulated policy as to the use of this system? (A note of explanation would be appreciated.)

Please include any explanatory notes as to subject matter, methods, and techniques.



Do you have one way communication with classrooms, or  
 does the loudspeaker in the classroom also function as a  
 microphone, and provide two way communication?

Who operates the central sound system?

Have you a formulated policy as to the use of this  
 system? (A note of explanation would be appreciated.)

12  
200 4  
Our public address unit is used by the teachers for:

Public Address Unit (microphone)

Do you have a definite time for intra-school broadcasts?

Our public address unit is used by the principal for:

Please include any explanatory notes as to subject matter, methods, and techniques.



Public Address Unit (microphone)

Do you have a definite time for intra-school broadcasts?

Our public address unit is used by the principal for:

Please include any explanatory notes as to subject  
matter, methods, and techniques.

13  
2005 5

Our public address unit is used by the teachers for:

Please include any explanatory notes as to subject matter, methods, and techniques.



Our public address unit is used by the teachers for:

Please include any explanatory notes as to subject

matter, methods, and techniques.

Our public address unit is used by the pupils for:

1. How does the individual teacher arrange to have a broadcast from a radio station amplified in her classroom?

2. Is it the problem of the individual teacher to know what is on the air pertaining to her subject, or do you have some method of publicizing educational broadcasts?

3. Are there any programs that your teachers use regularly?

Please include any explanatory notes as to subject matter, methods, and techniques.

4. Is there a time allotment in your curriculum for the use of radio programs?



Our public address unit is used by the pupils for:

Please include any explanatory notes as to subject

matter, methods, and techniques.

2ms 7

3. have you formulated standards for evaluating radio programs?

Radio Unit

1. How does the individual teacher arrange to have a broadcast from a radio station amplified in her classroom?

2. Is it the problem of the individual teacher to know what is on the air pertaining to her subject, or do you have some method of publicizing educational broadcasts?

3. Are there any programs that your teachers use regularly?

4. Is there a time allotment in your curriculum for the use of radio programs?



15

Radio Unit

1. How does the individual teacher arrange to have a broadcast from a radio station amplified in her classroom?

2. Is it the problem of the individual teacher to know what is on the air pertaining to her subject, or do you have some method of publicizing educational broadcasts?

3. Are there any programs that your teachers use regularly?

4. Is there a time allotment in your curriculum for the

use of radio programs?

5. Have you formulated standards for evaluating radio programs?

Record and Transcription Flaming Unit

6. What methods are used

a) to prepare pupils for broadcasts:

Usual: Yes \_\_\_\_\_ No \_\_\_\_\_

And also at 70 r.p.m.? Yes \_\_\_\_\_ No \_\_\_\_\_

2. When is this unit used - Please check

For entrance and exit of pupils  
to building.....

b) during broadcasts?  
to monitor.....

For fire drills.....

For physical education activities,.....

For educational recordings or  
transcriptions, such as  
music appreciation.....

social studies.....

c) to "follow-up" broadcasts? .....

And others.....



5. Have you formulated standards for evaluating radio

programs?

6. What methods are used

a) to prepare pupils for broadcasts?

b) during broadcasts?

c) to "follow-up" broadcasts?

Record and Transcription Playing Unit

1. Have you a dual speed turn table; i.e., does the turn table play at 33 1/3 r.p.m. (revolutions per minute)?

Check: Yes \_\_\_\_\_ No \_\_\_\_\_

And also at 78 r.p.m.?.....Yes \_\_\_\_\_ No \_\_\_\_\_

2. When is this unit used - Please check

For entrance and exit of pupils  
to building..... \_\_\_\_\_

For entrance and exit of pupils  
to auditorium..... \_\_\_\_\_

For fire drills..... \_\_\_\_\_

For physical education activities, \_\_\_\_\_

For educational recordings or  
transcriptions, such as  
music appreciation..... \_\_\_\_\_

social studies..... \_\_\_\_\_

English..... \_\_\_\_\_

Add others..... \_\_\_\_\_



# Record and Transcription Playing Unit

1. Have you a dual speed turn table; i.e., does the turn table play at 33 1/3 r.p.m. (revolutions per minute)?

Check: Yes \_\_\_\_\_ No \_\_\_\_\_

And also at 78 r.p.m.? ..... Yes \_\_\_\_\_ No \_\_\_\_\_

## Please check

2. When is this unit used -

For entrance and exit of pupils  
to building.....

For entrance and exit of pupils  
to auditorium.....

For fire drills.....

For physical education activities.....

For educational recordings or  
transcriptions, such as  
music appreciation.....

Social studies.....

English.....

And others.....

What in service training do you provide for teachers  
in the use of the central sound system?

### Recording Unit

How is this unit used in your school?

Please check

To record educational broadcasts  
for later use.....

To make practice and progress  
recordings in speech correction  
or in perfecting musical or  
dramatic productions.....

To record announcements or directions  
that must be repeated.....

To record winning orations, essays,  
plays, pageants, etc., so as to  
assemble a school library of  
recordings.....

Add others:



Recording Unit

How is this unit used in your school? Please check

To record educational broadcasts  
for later use.....

To make practice and progress  
recordings in speech correction  
or in perfecting musical or  
dramatic productions.....

To record announcements or directions  
that must be repeated.....

To record winning orations, essays,  
plays, pageants, etc., so as to  
assemble a school library of  
recordings.....

Add others:

What in service training do you provide for teachers  
in the use of the central sound system?



What in service training do you provide for teachers

in the use of the central sound system?

### Analysis of Questionnaire

Fifty questionnaires were sent out and of these, thirty-seven were returned. The smallest school reporting had six rooms and the largest had one hundred rooms.

We have a central sound system composed of:

<u>No</u>	<u>Yes</u>	
___	___	public address system to _____ rooms (or outlets)
___	___	radio unit
___	___	recording unit
___	___	recording playing unit

The answers to this question indicated that:

Two schools have public address systems only, with loud-speakers in all classrooms.

Seven schools have public address systems and radio units.

Two schools have public address systems, radio units, and recording units.

Eighteen schools have public address systems, radio units, and recording playing units.

Eight Schools have public address systems, radio units, recording units, and recording playing units.



## Analysis of Questionnaire

Fifty questionnaires were sent out and of these, thirty-seven were returned. The smallest school reporting had six rooms and the largest had one hundred rooms.

We have a central sound system composed of:

<u>Yes</u>	<u>No</u>
Public address system to _____ rooms (or outlets)	_____
radio unit	_____
recording unit	_____
recording playing unit	_____

The answers to this question indicated that:

Two schools have public address systems only, with loud-speakers in all classrooms. Seven schools have public address systems and radio units. Two schools have public address systems, radio units, and recording units. Eighteen schools have public address systems, radio units, and recording playing units. Eight schools have public address systems, radio units, recording units, and recording playing units.

How many channels, i. e., how many programs, can you distribute at the same time to selected rooms? \_\_\_\_\_

Nineteen schools have one channel unit.

Fifteen " " two " units.

Three " " three " "

Where is the control panel located (in the principal's office, separate control room, or other location)?

The control panel is located in the main office or the principal's office in all but one school and this school reports a central control room.

How many microphones do you have?

Twelve schools have one microphone

Seventeen schools have two microphones

Five schools have three microphones

Two " " four "





How many microphones do you have? \_\_\_\_\_

In how many locations may these be attached?

Please check: \_\_\_\_\_ principal's office  
 \_\_\_\_\_ control room  
 \_\_\_\_\_ stage of auditorium  
 \_\_\_\_\_ gymnasium

Add others:

Four schools have outlets for the attachment of the microphone only in the school office.

Fifteen schools can attach the microphone in the office and on the stage of the auditorium. (In five of these schools, the auditorium is also the gymnasium.)

Nine schools have outlets in the gymnasium

The remaining ten schools (all large schools) can install the microphone in other locations, such as in the cafeteria, music rooms, library, etc.: one school reported that all rooms are so equipped that the microphone can be used in any location.

Do you have one way communication with classrooms, or does the loud-speaker in the classroom also function as a microphone, and provide two way communication?

In twenty-three schools, the public address unit has



How many microphones do you have?  
 In how many locations may these be located?

Please check: \_\_\_\_\_ Principal's office

\_\_\_\_\_ Principal's room

\_\_\_\_\_ Stage of auditorium

\_\_\_\_\_ Gymnasium

Add elements:

Four schools have units for the placement of the  
 microphone only in the school office.  
 Fifteen schools can attach the microphone in the office  
 and on the stage of the auditorium. (In five of these  
 schools, the auditorium is also the gymnasium.)  
 Five schools have units in the gymnasium.  
 The remaining ten schools (all large schools) can install  
 the microphone in other locations, such as in the cafeteria,  
 music room, library, etc. One school reports that all  
 rooms are so equipped that the microphone can be used in  
 any location.

Do you have any communication with classrooms, or  
 does the loud-speaker in the classroom also function as a  
 microphone, and provide two way communication?

In twenty-three schools, the public address unit has

one-way communication with the classrooms.

Twelve schools have the two-way communication or the "talk back" feature. (One principal reports "Not very satisfactory to use the "talk back". We have room phones and do not need it.")

Two schools failed to report on this item.

Who operates the central sound system?

The central sound system is operated in

Nine schools by the principal

Five " " " office clerk

Four " " " principal or clerk

Eight " " " " clerks, or designated  
faculty members

Nine schools by the principal, clerks, faculty  
members or students

Two schools did not report on this question.

Have you a formulated policy as to the use of this system?  
(A note of explanation would be appreciated.)

Nine schools reported no definite formulated policy for the use of the system. Six schools failed to answer this question.



one-way communication with the classroom.  
Twelve schools have the two-way communication of the  
"talk back" feature. These principal reports "not very  
satisfactory to use the 'talk back'". We have room phones  
and do not need it."  
Two schools failed to report on this item.

Who operates the central sound system?  
The central sound system is operated in  
Nine schools by the principal  
Five " " " " office clerk  
Four " " " " principal or clerk  
Eight " " " " clerks, or designated  
faculty members  
Nine schools by the principal, clerks, faculty  
members or students  
Two schools did not report on this question.

Have you a formulated policy as to the use of this system?  
(A note of explanation would be appreciated.)

Nine schools reported no definite formulated policy for  
the use of the system. Six schools failed to answer this  
question.

The following are examples of the answers to this question:

"It is used at the discretion of the principal."

"We plan to interrupt classes as infrequently as possible.

Announcements are made before classes begin in the morning and again, if necessary, at the beginning of the last period of the day. It is usually necessary."

"Used at regular times daily for all school announcements only."

"The program broadcast is to have at least the same value to the pupil as a lesson taught during that time."

"Used regularly to facilitate the administration of the school and to enrich the educational program."

"The system must be used under teacher supervision. Recordings or radio programs must be requested by department heads. Incoming special radio programs of general interest, are brought into the schoolroom at the discretion of the principal and a committee of teachers."

Do you have a definite time for intra-school broadcasts?

Seventeen schools report that they have no definite time for intra-school broadcasts.

Eighteen schools report that they do have a definite time for such broadcasts. Broadcasts in these schools are usually



The first is a sample of the ...

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... of the ...

... of the ...

given shortly after the opening of a session or just before the close of the sessions, except in the case of emergency.

Two schools did not answer this question.

Our public address unit is used by the principal for:

The answers to this question indicate that the principals use the public address system for

Announcements

News items

Tests

Special drives

Instructions regarding fire drills or conduct

Special speakers

Calling for various pupils

messages to teachers

Emergencies.

Our public address unit is used by the teachers for:

This question was left unanswered by ten principals.

Six principals reported that it was not used by teachers, and four reported that it was used "almost never," "rarely,"





"only occasionally," "for emergencies."

Two principals mention the use of the system by speech teachers and one principal reports language instruction, such as for French and Spanish.

One principal reports the exchange of lessons and projects.

The answers on the remaining fourteen questionnaires report that teachers use the public address system for

Announcements

Auditorium presentations

Pep talks for special drives, such as stamp sales, Red Cross, etc.

Tests

Supplementing instructions

Plays or skits

Our public address unit is used by the pupils for

In thirteen schools, the use of the public address system by pupils is limited to making announcements and giving pep talks so as to stimulate interest in curricular and extra curricular activities.

Three principals reported "very seldom," "rarely" and "occasionally, about once a year."

One elementary principal states "broadcasts are usually planned and arranged by pupils under the guidance of the



"only occasionally," "for emergencies."

Two principals mentioned the use of the system by speech teachers and one principal reported using it occasionally, more as for speech and grammar.

One principal reports the extensive use of lessons and projects. The answers on the remaining thirteen questionnaires report that teachers use the public address system for

Announcements

Anticipatory presentations

Pop talks for special drives, such as stamp sales, Red Cross, etc.

Tests

Supplementing instructions

Plays of value

Our public address unit is used by the pupils for

In thirteen schools, the use of the public address system by pupils is limited to making announcements and giving pop talks so as to stimulate interest in curriculum and other co-curricular activities.

Three principals reported "very seldom," "rarely"

and "occasionally," "from once a year."

One elementary principal stated broadcasts are usually planned and arranged by pupils under the guidance of the

principal or a teacher. The main objects of these programs are improvement in English, speech, reading and character development. Certain pupils are given the responsibility of planning and executing these programs."

One Junior High School principal reports that programs are "broadcast from the auditorium to other rooms in the building and over the local broadcasting station. Recently, the pupils of grade VII broadcasted a Good Neighbor Program to Latin America. The material selected from events in Social Studies."

In other schools, the principals listed

Book reviews

Choric speaking

Musical programs

Training in announcing

Plays and dramatics

Readings

Minute dramas

Eight principals left this question unanswered.

How does the individual teacher arrange to have a broadcast from a radio station amplified in her classroom?

One school stated that they were not using the radio



principal or a teacher. The main objects of these programs are improvement in English, speech, reading and character development. Certain pupils are given the responsibility of planning and executing these programs."

One Junior High School principal reports that programs are "broadcast from the auditorium to other rooms in the building and over the local broadcasting station. Recently the pupils of Grade VII broadcasted a Good Neighbor Program to Latin America. The material selected from events in Social Studies."

In other schools, the principals listed

Book reviews

Chorus speaking

Musical programs

Training in swimming

Plays and dramatics

News days

Minute dramas

Eight principals left this question unanswered.

How does the individual teacher arrange to have a broad-

cast from a radio station amplified in her classroom?

One school reports that they have not using the radio

unit because of the lack of suitable programs.

Twenty-five schools report that the teacher contacts the principal or the office.

Two schools report the use of small room sets if the program is of interest to only a few rooms.

One school reports that the teacher contacts "The Director of Social Arts who completes further arrangements."

Five schools did not answer this question; two of the five had no radio unit and the other three had radio units.

Is it the problem of the individual teacher to know what is on the air pertaining to her subject, or do you have some method of publicizing educational broadcasts?

The problem of knowing what is on the air is left to the individual teacher, in five schools.

Eighteen schools report that it is the problem of the individual teacher but publicity for some programs, is given by the principal through notices on the bulletin boards, and any advance information that is available is passed on to the teachers.

Two schools report "problem of teacher chairman of radio group" and "individual teacher and radio committee."

Six schools failed to answer this question.



will because of the lack of suitable programs.  
Twenty-five schools report that the teacher contacts the  
principal or the office.

The schools report the use of email room sets if the  
program is of interest to only a few rooms.  
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radio group" and "individual teacher and radio committee."  
Six schools failed to answer this question.

Are there any programs that your teachers use regularly?

A negative answer to this question was received from twenty-two schools and two schools answered "yes" without any explanation.

Four schools report regular use of the American School of the Air. One of these specified the time as 9:15 to 9:45 AM. (The time of this program was changed in September 1945 to 5:00 to 5:30 PM.)

Two schools use broadcasts for music and music appreciation.

Some of the reasons given for not using the radio programs regularly are

"Most programs are not of any value to children in grades 1 to VI."

"Few suitable programs that fit into the curriculum."

"Not at the present time except for news. We formerly used the programs of the American School of the Air regularly for the elementary school and also the Damrosch concerts."

"Not completely, although the American School of the Air was fairly popular. News broadcasts and special events."

Five principals failed to answer this question.



Are there any programs that your teachers use regularly?

A negative answer to this question was received from twenty-two schools and two schools answered "yes" without any explanation.

Four schools report regular use of the American School of the Air. One of these specified the time as 1:15 to 2:45 AM. (The time of this program was changed in September 1948 to 8:00 to 8:30 PM.)

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Five principals failed to answer this question.

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Is there a time allotment in your curricular for the use of radio programs?

Only one principal reports a time allotment in the curriculum for the use of radio programs and he made no explanations.

Thirty schools report no time allotment.

Other principals report "No particular time, taken as the occasion arises."

"No - when a program occurs according to the radio log, it may be transferred to the room desiring it."

"No. Programs are worked into regular schedule as a part of English, Literature, Social Studies, Music, etc."

Six principals failed to answer this question.

Have you formulated standards for evaluating radio programs?

Twenty-five schools have not formulated standards for evaluating radio programs. One school has standards but failed to explain what they are.

One school answers "Before the war, yes. Now, no." Another says "only that such programs must justify interruption of regular school work."



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3  
9/2/12

Seven principals did not answer this question.

What methods are used: a) to prepare pupils for broadcasts?  
b) during broadcasts?  
c) to "follow-up" broadcasts?

This question was misunderstood by several principals who thought it applied to the use of the school microphone rather than to the radio unit. Twelve principals failed to answer the question at all.

The methods used to prepare pupils for broadcasts were:  
"Class discussion for interest as well as background for understanding forthcoming programs."

"Discussion, reading, securing maps, etc., in advance."

"Outline of teachers' manuals used in advance."

"Broadcasts are used only in case of some event of national or international importance, in which case all of the pupils are aware of the occasion without any preparation in school."

The methods used during broadcast were:

"Class and teacher put all other work aside - listen - commenting only when the program is broken by station announcer.

If note taking is done, it is brief and without verbal comment until the program is over."



Seven principles did not answer this question.

What methods are used: a) to prepare pupils for the  
class?

b) during the lesson?

c) to follow-up the lesson?

This question was misunderstood by several principals

and thought it applied to the use of the school microphone

rather than to the radio unit. Twelve principals failed

to answer the question at all.

The methods used to prepare pupils for the lesson were:

"Class discussion for interest as well as background for

material, following program."

"Discussion, reading, recitation, etc., in advance."

"Outline of lesson, usually read in advance."

"Pupils are read only in case of some sort of material

of international importance, in which case all of the pupils

are aware of the question without any preparation in school."

The methods used during the lesson were:

"Class and teacher put all other work aside - listen - discuss -

and only when the program is broken by station announcement.

It was noted that in some cases, it is held and without verbal comment

until the program is over."

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2  
1  
"Good listening - note taking if subject matter requires it."

"No interruptions."

"Listen carefully."

The methods used to "follow-up" broadcasts were:

"Follow-up by means of verbal and written reports -  
expression in art - or simply a class discussion."

"Usually discussion, sometimes 'quick check' tests. Often  
further reading and research with reports based on further  
information."

"Discussion."

"Review by teacher."

Have you a dual speed turntable; i.e., does the turn-  
table play at  $33 \frac{1}{3}$  r.p.m. (revolutions per minute)?

And also at 78 r.p.m.?

Twenty-five schools have a record playing unit; six  
principals reported that they had no record playing unit;  
and six principals failed to mark this item.

Twelve schools have a record playing unit which will  
play at  $33 \frac{1}{3}$  r.p.m. and at 78 r.p.m. Ten schools have  
a single speed turntable - 78 r.p.m. One principal states  
that it is used about once a year and two principals report  
that this unit is never used.



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Twenty-one schools report that this unit is used	
for entrance and exit of pupils to and from building	0
" " " " " " " " auditorium	4
" fire drills	0
" physical education activities	6
" educational recordings or transcriptions, such as	
Music appreciation	13
Social studies	9
English	9
" other uses	
Dances	1
Science	1
French	1
From 8:15 to 8:25 AM - before school	1

Seven schools report that the recording unit is used	
To record educational broadcasts for later use	2
" make practice and progress recordings in speech correction or in perfecting musical or dramatic productions	3
" record announcements or directions that must be repeated	0
" record winning orations, essays, plays, pageants, etc., so as to assemble a school library of recordings	1
" to record choir and band numbers	1





What in service training do you provide for teachers in the use of the central sound system?

Nineteen principals report that no in service training is given, and twelve principals failed to answer this question.

Six principals report

"Any person interested receives instructions."

"None is required. The use of the public address system has been thoroughly explained to each teacher."

"Demonstrations have been given in the control of the central sound system in the office for teachers. Several of the teachers have taken courses in Audio-Visual Aids."

"Course in Audio-Visual Educational is being given this semester by the University of Connecticut."

"Instruction given to teachers on the use of the system."

"There is no need for training as the system is very simple. The teacher is simply shown the set-up and no other training is necessary."

One principal added this note to his questionnaire:

"This system was installed about ten years ago when the radio teaching theory was young. Like many interesting side-lines, much was expected, not much was achieved, the whole thing was



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35

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## CHAPTER III

## Public Address Unit

## Current Practices in the Use of Central Sound Systems

The major use of this unit is by the principal for making announcements. The use of the unit by the teachers is also

The installation of central sound systems in schools, represents a substantial investment of educational funds. Most of the schools making returns were well equipped with a public address unit, a radio unit, and a recording playing unit. Only one principal noted that the equipment was inadequate in that it was possible to use his microphone only in one location, his office. Several principals stated that new units were on order, such as the recording units.

on the air pertaining to her subject except that now and again the principal calls attention to important broadcast. He also mentioned the use of the monthly bulletins

The operation of the system is in all cases under the direct control of the principal. Only two principals noted that there was a radio committee in the school.

The use of the public address unit is in most cases limited to the period immediately following opening of the school season, the home room period, or just prior to the closing of the session.

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### Public Address Unit

The major use of this unit is by the principal for making announcements. The use of the unit by the teachers is also limited to announcements in most cases. Principal use is extremely limited.

### Radio Unit

The reports on the use of the radio unit, show that it is the responsibility of the individual teacher to know what is on the air pertaining to her subject except that now and again the principal calls attention to important broadcasts. No school mentioned the use of the monthly bulletins from some of the major networks nor the weekly schedules listed in some newspapers.

Teachers do not use radio programs regularly and the major reason given was lack of suitable programs.

No school has a time allotment in the curriculum for radio listening. It is correlated with the subject matter, such as music or social studies.



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Teachers do not use radio programs regularly and the major reason given was lack of suitable programs.

No school has a time allotment in the curriculum for radio listening. It is correlated with the subject matter, such as music or social studies.

No school has definite formulated standards for evaluating radio programs. One principal states that the program must have as much value as a lesson taught by the teacher.

The method used to prepare pupils for broadcasts is class discussion. Only one principal mentioned the use of maps and such other education material pertaining to the subject.

During the broadcasts, the pupils listen; the taking of notes does not seem to be encouraged.

The "follow-up" of the broadcast is by discussion and in a few cases, written reports.

#### Record and Transcription Playing Unit

The record and transcription playing unit is used for music appreciation, more than for any other subject. Social studies and English recordings hold second place with physical education activities in third place.



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## Recording Unit

There were only four recording units in the thirty-seven schools that reported and these units are being used by the dramatic teachers and music department.

No in service training is being given to the teachers by the school departments. Instruction in the mechanical operation of the central sound system is given to teachers interested, by the principal.

When a school is considering the installation of a central sound system, the administrator should have a clear and definite idea of what he wants to do with it, and obtain sufficient equipment to set up an adequate system. He should familiarize himself with the system in which the schools are using such equipment. Then he should consider the specific needs of educational experiences that might be made more realistic or more effective in his own school by using a central sound equipment. He must decide how many separate programs he may want at the same time; i.e., would it be desirable to have the music department listening to recordings for music appreciation, while the social studies classes are listening to a broadcast of the opening of Congress and at the same time, the physical education instructor in the gymnasium is using the microphone to direct some activities. This type of program would necessitate a "three channel" system. A single channel system will distribute only one program at a time.

It is also desirable to have volume controls so that a program of music may be faded down to allow explanations. For example, if march recordings are being used during a



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## CHAPTER IV

### Criteria for the Selection of a Central Sound System

In selecting a school sound system, the administrator should have a clear cut idea of what he wants to do with it, and obtain sufficient equipment to set up an adequate system. He should familiarize himself with the ways in which the schools are using such equipment. Then he should consider the specific kinds of educational experiences that might be made more realistic or more effective in his own school by using a central sound equipment. He must decide how many separate programs he may want at the same time; i.e., would it be desirable to have the music classes listening to recordings for music appreciation, while the social studies classes are listening to a broadcast of the opening of Congress and at the same time, the physical education instructor in the gymnasium is using the microphone to direct mass activities. This type of program would necessitate a "three channel" system. A single channel system will distribute only one program at a time.

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For example, if march recordings are being used during a

fire drill, the administrator can fade the music so as to give directions to the pupils filing out of the building, and then increase the volume of music. This mechanism is called a "mixer."

Norman Woelfel and I. Keith Tyler in <sup>1</sup> "Radio and the School," have set up the following criteria for the selection of a central sound system:

"Criteria for the radio receiving set unit:

1. The set should have five or more tubes.
2. Short-wave and frequency modulation bands should be optional.
3. The set should be guaranteed to receive specified stations clearly and with adequate volume so that programs can be clearly heard in all rooms equipped with loud-speakers.

Criteria for the transcription-playing unit:

1. The machine should play 10-, 12-, or 16-inch discs.
2. The machine should operate at either 33  $\frac{1}{3}$  r.p.m. (revolutions per minute) or at 78 r.p.m.
3. The machine should maintain uniform speed within a maximum limit of  $\frac{1}{2}$  of 1 per cent variation. A rim-driven turn-table is preferable.
4. The total weight of the pickup head should not exceed two ounces when weighed at a position where the needle just

<sup>1</sup>. Norman Woelfel and I. Keith Tyler. Radio and the School pp 341-342.



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- Criteria for the transcription-playing unit:
1. The machine should play 10-, 12-, or 15-inch discs.
  2. The machine should operate at either 25 1/3 r.p.m.  
 (revolutions per minute) or at 78 r.p.m.
  3. The machine should maintain uniform speed within a  
 maximum limit of 1/2 of 1 per cent variation. A rim-driven  
 turn-table is preferable.

4. The total weight of the pickup head should not exceed  
 two ounces when weighed at a position where the needle just

clears the surface of the turntable.

#### Criteria for the control panel:

1. The panel should include several in-put channels, each with a volume control, so that music from the radio, record player, or a microphone can be faded down and an announcer's voice can be brought in over the back-ground music, or so that various dramatic effects can be achieved by the use of several microphones.

2. The panel should include a treble-bass tone control.

3. The panel should include switches for releasing a program to any single room, any combination of rooms, or all rooms equipped with loud-speakers.

4. Specifications for some central sound systems will include the phrases 'single channel' or 'two channel.'

These phrases indicate the number of separate programs that may be sent over the system at the same time. If, for example, it is desirable to have the music classes listen to a music appreciation broadcast, and at the same time, to have the social studies classes hear a round-table discussion from the school studio, a two-channel system is required. A single-channel system will distribute only one program at a time and is, therefore, much less flexible.

Two-channel systems are, of course, more expensive than single-channel systems. The choice of one over the other



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1. The panel should include several in-out channels,

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cord player, or a microphone can be turned down and an announc-

er's voice can be brought in over the other-ground music, or

so that various dramatic effects can be achieved by the use of

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2. The panel should include a trouble-bell tone control.

3. The panel should include switches for releasing a

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should be made in terms of available budget and probable uses of the system.

5. The panel should include a provision for releasing a program to the recording machine, if the school owns such equipment.

#### Criteria for the in-put channels:

In-put channels are the avenues by which sounds are transmitted to the amplifier. If the system is equipped with a radio-receiving set, a record player, and one microphone, it then has three "in-put channels." In general, the major benefits of a central sound system are enjoyed if the system has four in-put channels--one for radio receiver, one for record player, and two for microphones.

#### Criteria for the loud-speakers:

All loud-speakers should be at least eight inches in diameter and should be of the "dynamic" type. There should be a loud-speaker in the control room.

Differences in the size and acoustical properties of various rooms and other technical variables make it advisable to have a volume control and a tone control on every loud-speaker."

#### Criteria for the microphone:<sup>1</sup>

<sup>1</sup> Central Sound Systems for Schools, pp65-66.



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release  
One microphone shall be of a substantially nondirectional pressure-operated type.

its ability to fill the succeeding specifications shall not be affected by the length of circuit between it and the central amplifier location, up to distances limited by the school building.

Its frequency response shall be within plus 5 db between 100 and 7,500 cycles.

Full output from the system shall be obtainable when the microphone is in a sound field with an intensity of 60 db.

A desk stand shall be provided for this microphone.

Two microphones shall have directional characteristics that materially reduce their sensitivity to sound coming from random directions.

The ability of each of these microphones to fill the succeeding specifications shall not be affected by the length of circuit between it and the central amplifier location, up to distances limited by the school building.

Its frequency response shall be within plus 5 db between 60 and 8,000 cycles.

Full output from the system shall be obtainable when the microphone is in a sound field with an intensity level of 55db.

Floor stands shall be provided for these microphones."



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Its frequency response shall be within plus 5 db between

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Full output from the system shall be obtainable when

the microphone is in a sound field with an intensity of 80 db.

A desk stand shall be provided for this microphone.

Two microphones shall have directional characteristics

that materially reduce their sensitivity to sound coming from

random directions.

The ability of each of these microphones to fill the

succeeding specifications shall not be affected by the length

of circuit between it and the central amplifier location, up

to distance limited by the school building.

Its frequency response shall be within plus 5 db between

50 and 5,000 cycles.

Full output from the system shall be obtainable when the

microphone is in a sound field with an intensity level of 85db.

Floor stands shall be provided for these microphones.

The administrator must also decide whether or not he wants the return speech feature. Some sound systems are constructed so that the loud-speaker in any classroom can be used as a microphone by turning a switch on the control panel. Thus the principal can "listen in" on any classroom or he can carry on a two-way conversation with the teacher. The teacher can talk from any position in the room. This is a great convenience on many occasions, but the average teacher resents the idea that the principal can "snoopervise" her classroom at any time unknown to her, and thus judge her teaching ability during periods of unrelated listening. Because of the resentment and the resulting problem of morale, it would be well for the administrator to seriously question the advisability of including this feature. The manufacturers stress the element of time saving with the device, but the only time saved is the time it takes the teacher to walk to the telephone. Many administrators omit the "talk back" feature in their installations.

The following is a suggested list of equipment:

Radio room - room adjoining principal's office.

Antenna service to radio

Two power amplifiers.

Necessary loud-speaker exciter relays, controls,  
mounting and wiring.



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  - Antenna service to radio.
  - Two power amplifiers.
  - Necessary loud-speaker, exciter relay, controls.
  - Mounting and wiring.

## Microphone

Loud-speaker with switch and volume control.

Volume controls for amplifier.

Switch for turning power on and off.

Switches for allocating pick-up facilities and control to auditorium, music room, gymnasium, and playground.

Selector switches for radio, phonograph, microphones or two-way communication.

Radio tuner for local tuning and adjustment of school wave and broadcast stations with remote control of eight broadcast stations.

Selector switches for all loud-speakers.

## Auditorium.

Two built-in loud-speakers.

Two microphone or phonograph receptacles.

Two controls of microphone.

One volume control.

## Music Room.

One built-in loud-speaker.

One receptacle for microphone or phonograph.

One volume control.

Control of local program (this control will handle local program if distributed to other



Microphone  
 Loud-speaker with switch and volume control.  
 Volume controls for amplifier.  
 Switch for turning power on and off.  
 Switches for allocating back-up facilities and  
 control to auditorium, music room, gymnasium,  
 and playground.  
 Selector switches for radio, phonograph,  
 microphones or two-way communication.  
 Radio tuner for local tuning and adjustment of  
 school wave and broadcast stations with  
 remote control of eight broadcast stations.  
 Selector switches for all loud-speakers.

#### Auditorium.

Two built-in loud-speakers.  
 Two microphones or phonograph receptacles.  
 Two controls of microphones.  
 One volume control.

#### Music Room.

One built-in loud-speaker.  
 One receptacle for microphone or phonograph.  
 One volume control.

Control of local program (this control will  
 handle local program if distributed to other

Chapter 8

locations in the building).

### Gymnasium.

Two built-in loud-speakers.

Two receptacles for microphone or phonograph.

One volume control.

### Playground.

Microphone, phonograph and loud-speaker receptacles so placed that portable equipment can be used for mass activities in physical education out of doors.

### Classrooms.

Built-in loud-speaker.

### Portable equipment.

Two microphones with stands for use in auditorium, gymnasium, music room, or playground.

Two portable phonograph turntables.

The placement of the control panel calls for serious consideration. In some schools, it is necessary to place the control panel in the principal's office because of the lack of suitable space. This is not the best location because of the fact that broadcasts are disrupted by the ringing of the telephone and other unavoidable interruptions.



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Two portable photograph enlargers.

Gymnasium, music room, or playground.

Two microphones with stands for use in auditorium.

Portable equipment.

Built-in loud-speaker.

Classroom.

of doors.

for mass activities in physical education and so placed that portable equipment can be used Microphone, phonograph and loud-speaker receptacles

Playground.

One volume control.

Two receptacles for microphone or phonograph.

Two built-in loud-speakers.

Gymnasium.

locations in the building).

The ideal situation is a combined control room and studio that opens off the principal's office.

When the administrator has made his decision as to what he wants, he should select equipment manufactured by a recognized company, purchasing through a local dealer who will install the equipment and who will assume the responsibility of maintaining and servicing the equipment.

The installation of such a central sound system makes available to principal, teachers, and pupils, a modern tool which will enrich and vitalize the school curriculum.



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## CHAPTER V

### Suggested Use of Radio Unit

It is an accepted fact that good teaching aids are a means of enriching the learning experience of children, by simplifying the learning process and reducing the amount of effort required to understand abstractions. Radio is one of the newer teaching aids which has become a valuable ally of the teacher in helping her to achieve a broader scope in her classroom lessons and to integrate school life with life outside the classroom. Radio can help the teacher in bringing educational, cultural, and aesthetic material to her students, which due to the limitations on her time and the availability of source materials she cannot give them herself. The problem of the school to keep pace with the everchanging world is given decided assistance by the use of the radio; it is a medium for explaining ways of living and the present trend of thinking.

Teachers need help to overcome a certain reluctance in the use of new teaching tools. A few teachers do not want to undertake new things, but the majority of teachers welcome the opportunity if they are given some assistance and instruction in the mechanics of the equipment. Therefore, the administrator who desires to bring radio broadcasts into



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Radio 2

widespread use must offer guidance in formulating such a program. It is suggested that a committee of teachers interested in radio programs be appointed and that this committee be given some "in service" training, either by the building administrator, a member of the superintendent's staff, or better still be given the privilege of taking a recognized University course in the use of broadcasts.

It would be the duty of such a committee to prepare a "Radio Calendar" both for "in school" listening and "out of school" listening suitable to the grade levels. The daily newspapers have a daily radio section listing time and station, and some Sunday newspapers give a detailed listing of programs for the week. The National Broadcasting Company prepares a monthly bulletin containing descriptions and listings of their educational programs. This will be mailed free upon request, by addressing the National Broadcasting Company, 30 Rockefeller Plaza, New York City.

The National Committee on Education by Radio, One Madison Avenue, New York City, also prepares a monthly bulletin devoted to the discussion of educational radio policy and news notes. This will also be mailed free upon request.

The Columbia Broadcasting Company, 485 Madison Avenue, New York, sponsors the American School of the Air, offering programs in social studies, literature, science, and music that are suitable for "out of school" listening for upper



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grade children. A guide for these programs may be obtained free of charge from the local C. B. S. station.

The "Radio Guide" - a weekly periodical - gives classified listings of the programs of the week.

Dr. Cline Morgan Koon<sup>1</sup> offers the following criteria for the selection of radio programs:

"(1) The Source of the Broadcast Series

What is the nature of the agency presenting the series; the background of the people preparing and putting the broadcasts on the air; the probable continuity and stability of the personnel and the series? Is the series free from offensive propaganda and advertising?

"(2) The Objectives of the Series

To what extent will the series contribute to a realization of the cardinal objectives of education? How do the programs assist in furthering the objectives of the school? Does the broadcast material fit into the teacher's general plan for the year's work, or can she modify her plans so that the broadcasts become an integral part of her work?

"(3) Availability of the Series

Is the broadcast on the air at a time when it can be used? Is the reception satisfactory?

<sup>1</sup> Cline Morgan Koon. How to Use Radio in School pp.79-81



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Dr. Cline Morgan Koon. How to Use Radio in School. pp. 72-81

Radio 4

"(4) Adaptability of the Series

To what extent does the program grow out of some genuine situation of pupil experience? Is it suited to the mental age of the listeners? Do children of the age of the listening pupils participate on the programs? What aids-to-study are provided to assist in the utilization of the broadcasts? Is it attractively presented? What supplementary aids will be needed? Are the outlook, vocabulary, and phrasing suitable?

"(5) Manner of Presentation

Is the manner vital, terse, and economical of time? Does it arouse vivid, visual imagery? Does it contain a liberal portion of descriptive, humanized material in a concrete setting? Does it have appropriate musical settings and sound effects? Are the voices distinct, pleasing, interpretive, and easily followed?

"(6) Supplementary and Complementary Nature of the Material

Are the contents of the broadcasts related closely enough to the regularly outlined courses to be easily meshed into them? Is it easily correlated? Will it fill the teacher's need for supplementary material at the time? Will the pupils gain enlightenment from it?

"(7) Accuracy and Authenticity

Does it appear that the factual or historical



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## "(6) Supplementary and Complementary Material of the Material"

Are the contents of the broadcast related closely enough to the regularly outlined courses to be easily meshed into them? Is it easily correlated? Will it fill the teacher's need for supplementary material at the time? Will the pupils gain enlightenment from it?

## "(7) Accuracy and Authority"

Does it appear that the factual or historical

information contained in the program is authentic and presented without distortion? Are inaccuracies or omissions prevalent? Has authenticity been sacrificed anywhere for dramatic suspense?

"(8) Freshness, Rarity, and Variety

Does it supply new, timely information about important subjects? Is the same material available from other sources? Does it provide new associations of ideas and information?

"(9) Leading-on Value

To what extent does the series provide experiences, stimulate interests, and arouse questions that will lead children to carry out worth while learning activities? Does it appeal to the child's imagination and arouse his creative interests? Does it assist him in setting up a desirable objective and instill the urge to achieve? Does it build character?"

The "radio calendar" prepared by the committee of teachers should be in chart form, and the monthly program should be posted on the teachers' bulletin board. A more detailed program should be mimeographed and given to each teacher weekly.

This calendar will include programs for "out of school" listening as well as "in school" listening.



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"(6) Learning-on Values

To what extent does the series provide an exposure to diverse interests, and ensure an interest that will last? Children to carry out with their learning activities? Does it appeal to the child's imagination and ensure his creative interest? Does it assist him in setting up a realistic objective and fulfill the urge to achieve? Does it build character?"

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This calendar will include programs for "out of school" listening as well as "in school" listening.

## Guidance for "Out of School" Listening

"How to Use the Radio in the Classroom," a pamphlet prepared by a committee of Teachers and Radio Broadcasters,<sup>1</sup> published by the National Association of Broadcasters, Washington, D. C., presents the following criteria for the evaluation and selection of "out of school" listening for children:

1. Is the program based on children's interests?
2. Does it come at a suitable time?
3. Is it well presented technically?
4. Is it emotionally satisfying?
5. Does it meet the particular needs of the child or children for whom I am recommending?
6. Is it of general interest?
7. Is it valid?
8. Is it closely correlated to our work in school?
9. Do the programs which I recommend present a variety of experience?"

The elementary school child averages about two hours a day in "Out of school" listening to the radio, and the alert teacher must attempt to influence the listening habits of her pupils. These programs fall into two classifications: first, listening for pure enjoyment; and second, listening

<sup>1</sup> How to Use Radio in the Classroom. Washington, D.C. PP78-81



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 her pupils. These programs fall into two classifications:  
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for material that will supplement the school work. Music, drama, story, the variety show, science and news programs may on occasion be recommended to pupils. It is questionable whether the teacher should ever make a definite assignment of an "out of school" program. Some homes do not have radios and if there is a radio, other members of the family may have program preferences that conflict with the pupils assignment. However, she may offer suggestions as to program selections and for specific programs that correlate with school work. She may want to have a discussion period to define the purposes of the program. Pupil "radio reporters" may then volunteer to cover the broadcast and report to the class.

The teacher may recommend programs of the purely recreational type. She may have the class list their favorite programs and pupils may recommend programs to their classmates. Discussions of this type will give the teacher opportunity to tactfully point out the desirable and the undesirable features of radio programs. In this way, she will enrich and broaden the child's experiences and so vitalize his learning about his world.



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Radio 8  
V  
Guidance for "in school" listening.

The radio committee will prepare a calender of programs for "in school listening" similar to the calendar suggested for "out of school" listening, except that it has a space for the individual teacher to sign up for the programs that she desires to use in her classroom. The committee will also obtain any supplementary material, such as teacher manuals, or outlines that may be supplied by the sponsors or the broadcasting stations in sufficient quantity so that each teacher using the programs may have all the pertinent facts well in advance of the broadcast. The committee may find it desirable to confer with supervisory officers and ask their assistance in preparing supplementary material for use with broadcasts. For instance, for a music appreciation broadcast, the music supervisor could prepare an outline containing references as to the life of the composer, the story of the opera, types of instruments to be presented, or other information that would be of assistance in preparing the pupils for the broadcast. The supervisor may also wish to prepare some questions or a check list as a follow-up activity.

The radio committee will be alert to list current "on the spot" broadcasts so that pupils may listen to history as it is being made. These broadcasts would include the President's Inaugural, Opening of Congress, and other important pronouncements of history making leaders.



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The radio committee will be alert to list current "hot spot" broadcasts so that pupils may listen to history as it is being made. These broadcasts would include the President's inaugural, opening of Congress, and other important announcements of history making events.

Radio 9

The radio committee should organize a club for "radio technicians." These technicians, usually boys from the upper grades, should be given instructions in the operation of the sound system. The operation is comparatively simple, but should be done under the guidance of the principal, a member of the radio committee, or the principal's secretary, at first. With a little experience, boys are quite adept at operating the average central sound system. It should be the responsibility of the "radio technicians" to consult the radio calendar each morning to find out what programs are to be used on that day, and the radio committee chairman assigns a chief and an assistant technician to each program. The boys may leave their classrooms five minutes before the broadcast is scheduled. They should tune in the desired station, adjusting the volume and the tone control by listening to the monitor. When the program is about to start, they can distribute the program to the classrooms that are to listen. It is the duty of the assistant technician to visit one of the classes listening in, to check on the reception. It need not interrupt a program for the teacher to nod her approval or otherwise signal the technician.

Thus, the mechanics of the broadcasts may be administered by the radio committee and the pupil technicians.

At one of the first teachers' meetings of the year, the radio committee should be prepared to discuss with the teachers



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Radio

the problem of how the use of school time for listening to radio programs can be justified. The aims and objectives of radio listening should be clearly outlined in order to gain the interest and cooperation of the whole staff. The teachers should understand that in general the programs recommended to them for "in school" listening would be selected with these criteria in mind.

A program for "in school" listening should (1) enrich the subject matter in the units already being developed in the classroom; (2) achieve curricular objectives; (3) stimulate new lines of activities; (4) provide more meaningful experiences and deeper appreciation of the arts; (5) bring world affairs of vital and significant importance into direct contact with the classroom.

The teachers must understand that the broadcasts should supplement the work that is going on in the classroom, and that there will almost never be close correlation with the courses of study.

The preparation of pupils before the broadcast is an important and necessary part of any radio lesson. This preparation sets the purpose of the broadcast and relates the program to the school work. The pupils must be given a proper background so that they may know what to expect and to help them to interpret the program. For instance, if the program is to be a story about children of another land, the



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Radio II

class should study the map, learn the names of some of the cities, and do some supplementary reading. The study guides prepared by the sponsors, broadcasting systems, or the radio committee should be of assistance to the teacher in preparing the pupils for the broadcast. Too much stress cannot be placed on the necessity of careful and painstaking preparation. Too often the pupils are so unfamiliar with the subject matter of a radio program that they cannot form satisfactory concepts and are bored before the program is over. Children will listen with rapt attention to a program which is within their comprehension.

Immediately preceding the broadcast the teacher should check on the physical set-up of the room, the ventilation, adjustment of shades, seating arrangements, or anything that will make listening more enjoyable.

Once the program is "on the air" there must be no interruptions. Pupils of elementary school age are unskilled in note taking; therefore, the teacher may want to take a few notes for use during the follow-up discussion period. Sometimes it may be desirable for her to stand near the blackboard and jot down an unfamiliar word or phrase. This should not be done to the point of distracting the pupils. Anything that interferes with concentrated listening should be eliminated.

The activities after a broadcast depend upon the type of



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The activities after a broadcast depend upon the type of

Radon  
broadcast and the interest aroused. Following a broadcast, there should be a discussion period so that the teacher may learn what points need clarification and what further activities are desirable. Now and again written reports on a program may be required.

The teacher should check the learning that takes place during a radio program as carefully as she checks the learning in other areas. She must evaluate the results and know that radio listening in the school room is making a contribution to the over all education of the child.



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## CHAPTER VI

## Suggested Use of Record Playing Unit

There are two major types of recordings. (1) The phonograph records which rotate at 78 r.p.m. (revolutions per minute), and are made on discs, six, eight, ten or twelve inches in diameter. These records may be played on ordinary phonographs. (2) The radio transcriptions, which rotate at  $33 \frac{1}{3}$  r.p.m. and are usually made on sixteen inch discs. These must be played on a playback or a phonograph whose motor operates at  $33 \frac{1}{3}$  r.p.m.

A thirty minute program is recorded on two sides of a sixteen inch disc operating at  $33 \frac{1}{3}$  r.p.m., and the same program recorded at 78 r.p.m. would require two sides of three twelve inch discs.

There has been a tremendous increase in the production of educational recordings in the past few years. Improved techniques of recording make it possible to reproduce a program as it originally sounded in the studio.

The teacher who plans to use recordings or transcriptions has a two-fold problem: first, the selection of the recording or transcription that will integrate, supplement and implement the course of study; and secondly, methods of utilization.



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There has been a tremendous increase in the production of educational recordings in the past few years. Improved techniques of recording make it possible to reproduce a program as it actually sounded in the studio.

The teacher who finds in his recordings or transcriptions has a two-fold problem: First, the selection of the recording or transcription that will integrate, supplement and implement the course of study; and secondly, methods of utilization.

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Rec 2

Like any effective teaching tool, there is no one way of using recordings; a teacher's skill will be needed to guide the learning process. The following suggestions are from "A Catalogue of Selected Educational Recordings," published by the recordings Division of the New York University Film Library. <sup>1</sup>

"(1) Sufficient time should be allowed for playing. Although the recording usually has the time marked, it is well for the teacher or leader to time it by listening to it in advance.

"(2) Equipment should be prepared and tested in the given room. Find the spot and direction best for placing the machine. The important thing is that all may hear comfortably. Students lose interest or become disgusted if they have to wait while a fellow student, teacher, or special operator tries out the equipment. Sometimes a rearrangement of chairs is necessary.

"(3) In terms of the purpose of the class, have previous agreement concerning freedom or requirement to take notes. Do not interrupt the recording to give instruction. Remember that the recordings run without pauses. Taking notes is difficult unless one is to lose a considerable part of the speaking, or the notes are to be very simple.

"(4) It is usually desirable for the class to have some knowledge of the speakers' status, the source of the recording, and similar details before listening. Sometimes, of course,

<sup>1</sup> Catalogue of Selected Educational Recordings pp 10-11



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(3) In terms of the purpose of the class, have previous assignments concerning the use of recordings in the notes. Do not interrupt the recording to give instructions. Remember that the recording is run without pauses. Taking notes is difficult unless one is to take a considerable part of the speaking, or the notes are to be very slight.

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Rec3

students may want to judge the speakers from what these persons are able to tell. It is important to develop such judgement. If judgement is to be given, time should be allowed for a few questions, so that all may understand clearly. When dramatizations are presented, some background is usually needed. The program is compact, and often is intended primarily for those who have some general understanding of the period or situation depicted.

"(5) Expect that listening to recordings will need to be taught, just as reading must be taught. Students will improve as time goes on.

"(6) Use recordings as an integral part of the study, not as time killers or for making an uninteresting unit or student report entertaining. The recording deserves presentation if it is good; if it is not, it should be discarded.

"(7) Focus discussion on the important matters presented; that is, avoid discussion of techniques, voices of speakers, and such matters unless the recording is for use in a class studying these topics.

"(8) If possible let there be time for discussion immediately following the playing of the recording. The discussion may continue next day, but immediate consideration helps to focus attention and thinking.

"(9) Avoid using a series of recordings without intervening discussions and reading. They may otherwise encourage



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passive listening rather than thought.

"(10) Unless the leader's purpose include comparing his initial reactions with those of the group he should be familiar with the recording, its weakness, and its strong points.

"Preparation is as important with recordings as with any other resource material."

Phonograph recordings have been used in the field of music for many years and now the teacher has available literally hundreds of records and transcriptions for the teaching of music and music appreciation. Music of all periods and from all countries is available. Music appreciation may be taught step by step from the singing game and folk songs to the world's greatest symphonies and operas.

In the field of literature there is a wealth of material. Many of our modern authors have had recordings made as they read their own writings. Robert Frost, Walter de la Mare, Robert Hillyer, Vachel Lindsey, and many others have recorded their interpretations of their poems for posterity. Leading Shakespearean actors such as Maurice Evans, Orson Welles, and John Gielgud have recorded scenes from Shakespeare. Poetry, plays, famous speeches, stories, dialect recordings--an endless collection of valuable material that will enrich and supplement the course of study. The wise selection and use of



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 recordings should stimulate reading and motivate further study.

In the field of social studies, dramatizations and discussions give reality and meaning to the subject. Such series as *The Growth of Democracy*, *Let Freedom Ring*, or *Cavalcade of America* provide dynamic and vital educational experiences. Recordings of this type may be used to open discussion of major issues and to stimulate reading.

Unfortunately, there are no recordings made by George Washington and Abraham Lincoln, but we can get Maxwell Anderson's radio drama, "Valley Forge," and Raymond Massey's reading of "Lincoln's Gettysburg Address." We can hear President Coolidge welcoming Charles A. Lindbergh after his New York to Paris flight; we can hear Neville Chamberlain's "Peace in Our Time," "The Message to the Empire of March 1, 1936" by Edward VIII; Madame Chiang Kai-shek's address to the House of Representatives of the United States.

These and hundreds of other transcriptions are available to the alert teacher of social studies. Pupils who are given the privilege of listening to these "on the spot" recordings will acquire an understanding of the world in which they live.

Recordings for the purpose of teaching modern languages



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Recordings for the purpose of teaching modern languages

66  
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"in ten easy lessons" have been made in at least twenty-five different tongues, including Latin and classical Greek.

While these recordings do not accomplish all that the enthusiastic sponsors claim, they are of inestimable value in training the ear by hearing the language spoken by a native speaker. Most of these records have accompanying manuals which are well prepared and are of value especially in the secondary schools.

There are also recordings of songs, speeches, recitations and readings in many languages. Professor Grandgent from Harvard has made recordings of Dante's "Inferno" in classic Italian; Alexander Moissi has recorded excerpts from the works of Goethe, Schiller, and Verhaeren. Scenes from the plays of Racine, Moliere and other great French authors are recorded so that pupils may listen to the language spoken by eminent artists.

Recordings have been successfully used by the teacher of physical education in the classroom and the gymnasium for many years. One of the problems that the teacher was formerly faced with was the problem of amplification. On the old fashioned phonograph, the record sounded sufficiently loud when the class was listening, but when forty children started to exercise or dance to the rhythm of the recording,



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67  
Rec 7

it was a different matter. With the modern turn table and amplifier this problem is solved. The physical education teacher can use marches, folk dances of other countries, our own American country dances and be assured that the music can be heard by all in the gymnasium.

Records are always accessible and are always played in the same rhythm, and the teacher of physical education will find them of more value than student pianists.

Another advantage of the modern sound system is that it can have outlets adjacent to the playground so that an out-of-door pageant may be arranged with script and music amplified for the audience.

Mass activities of all kinds lend themselves to physical education demonstrations when the instructor can be sure that individual groups taught with the same recordings can be brought together on the playground in large numbers and by amplification of recordings put on a creditable performance without rehearsals.

Another use of recordings on a central sound system is for background music as pupils are coming into school or



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Another use of recordings on a central sound system is  
for background music at parties and newly laid school grounds.

moving from one part of the building to another. In fire drills, the music may be "faded" while a few words of direction are given. If recordings are used in this way, it is particularly desirable to have "long playing" records at 78 r.p.m. or recordings made at 33 1/3 r.p.m. so as to avoid frequent changes of records.

Recordings and transcriptions may be obtained from many sources. The Catalogue of Selected Films, published by the Recordings Division of the New York University Film Library, already mentioned in this paper, contains an excellent listing and suggestions as to the use of recordings.

The R.C.A. Manufacturing Company publishes "Catalogue of Victor Records"; "Victor Records for Elementary Schools"; "What we Hear in Music"; "Music and Romance"; "Victor Book of the Opera"; "A Lecture Laboratory Course in Music Appreciation and History of Music."

"The Victor Book of the Opera" is published by Simon and Shuster, New York. "The Columbia History of Music Through Ear and Eye" is published by the Oxford University Press, New York.

A critical survey of recordings of outstanding musical works, "Music on Records," by B. H. Hagin, is also published by the Oxford University Press.



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Rec 9

Hendrik Willem Van Loon has assembled an excellent list of recordings selected from the catalogues of the major companies, "The Arts," published by Simon and Shuster, New York. Harper and Brothers publish the "Mercury Shakespeare Text" series to accompany the Shakespearean recordings of Orson Welles--Twelfth Night, Merchant of Venice, Julius Caesar, and Macbeth.

Encyclopedia Britannica  
Chicago, Illinois

Federal Audio Education Committee  
United States Office of Education  
Federal Security Agency  
Washington, D. C.

The Gramophone Shop, Inc.  
New York, N. Y.

Harvard Film Service  
Cambridge, Massachusetts

Intercontinental Audio-Visual Corporation  
New York, N. Y.

Gramophone Institute  
New York, N. Y.

National Council of Teachers of English  
Chicago, Illinois

R.C.A. Manufacturing Company, Inc.  
Camden, New Jersey

Recording Division, New York University Film Library  
New York, N. Y.

Popular Science Monthly  
New York, N. Y.



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A PARTIAL LIST OF SOURCES OF RECORDINGS

Columbia Recording Corporation  
Bridgeport, Connecticut

Decca Records, Inc.  
New York, N. Y.

Encyclopedia Britannica  
Chicago, Illinois

Federal Radio Education Committee  
United States Office of Education  
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The Gramophone Shop, Inc.  
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Intercontinental Audio-Video Corporation  
New York, N. Y.

Linguaphone Institute  
New York, N. Y.

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R.C.A. Manufacturing Company, Inc  
Camden, New Jersey

Recording Division, New York University film Library  
New York, N. Y.

Popular Science Monthly  
New York, N.Y.



A LIST OF SOURCES OF INFORMATION

- Colville Receiving Commission  
Billings, Montana
- Deer Creek, Inc.  
New York, N. Y.
- Psychological Services  
Chicago, Illinois
- Federal Radio Station Committee  
United States Office of Education  
Federal Security Agency  
Washington, D. C.
- The Gramophone Shop, Inc.  
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- Harvard Film Service  
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New York, N. Y.
- Language Institute  
New York, N. Y.
- National Council of Teachers of English  
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- A. C. C. Manufacturing Company, Inc.  
Canton, New Jersey
- Recording Division, New York University Film Library  
New York, N. Y.
- Popular Science Monthly  
New York, N. Y.

## CHAPTER VII

## Suggested Use of Public Address Unit.

The school administrator who has at his command an adequate central sound system is indeed fortunate. In too many cases, salesmen unfamiliar with school programs have sold inappropriate "console models" to administrators who have been too busy to look into the problem of the selection of a well designed, properly constructed system that will adequately serve the school population. Administrators have been urged to place the control panel in their offices, so that it may be ready for their use at any moment. True, the principal should have a microphone on his desk, but the control panel should be in a separate room where broadcasts will not be interrupted by the ringing of the telephone, or an unexpected visitor. If full use of the public address system is to be made by pupils and faculty, a control room adjoining the principal's office is most desirable.

The actual management and operation of the sound system and its use should be shared by the administrator, the faculty, and the student body. In the secondary school, "Broadcasting Clubs" may be organized, and the pupils taught the operation of the system; in elementary schools, the operation of the unit must be under the direct supervision of the administrator





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or faculty member, assisted by students from the upper grades.

One of the first decisions to be made is in the matter of routine announcements. The ease with which one may contact all rooms or one room tempts many administrators to reach for the microphone. Announcements should not be made haphazardly at any time during the day unless an emergency requires that announcement. Repeated interruptions of class sessions, though only of momentary duration, cannot possibly be justified. The administrator should decide when routine announcements are to be made. In some schools the announcements are made immediately after the sound of the opening bell; i. e., when the last bell rings, three ascending notes on the chimes notify the school population that they may expect a broadcast, and three descending chimes denote the close of a broadcast. Some administrators have a second announcement period just before the close of school.

One advantage of the public address announcements is that they are heard identically by all, and to some extent prevents varying interpretations. However, it is wise to write out and read announcements to avoid future discussions. It is not "good radio" to depend upon one's memory.

This is especially true of announcements made by students. Many schools have opening exercises conducted by students over the central sound system every day, or once a week. This gives opportunity for the broadcasting of school news,



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pep talks, or announcements of special drives.

In many schools, the Broadcasting Clubs have special news reporters who prepare the scripts for such broadcasts.

The central sound system should be used to disseminate information or announcements that affect the student body as a whole, or a class as a whole (if only one room is tuned in). It should not be used as a paging device or to ask questions that affect only a few students. In too many schools, work is interrupted because "Miss Smith (a supervisor) is wanted on the telephone, Miss Smith is wanted on the telephone," or "Will Mr. Blank (the janitor) please come to the office, will Mr. Blank please come to the office?" Constant interruptions are annoying to teachers and pupils.

Schools equipped with a public address system with the controls located in a room other than the school office, can undertake a varied program of student broadcasting. In the radio trade, this is called "simulated radio," but to the pupils it is "broadcasting."

These broadcasts may take many forms--special reports, newscasts, student interviews, round table discussions, choric speaking programs, concerts, dramatizations, series of programs on science, health education, etc.

Birthdays of famous people or special days present excellent opportunity for broadcasts. This type of broadcast may in some instances, take the place of assembly programs.





R. R. Lowdermilk in "The School Radio Sound System"<sup>1</sup> lists the commonly claimed values of student broadcasting in four general classifications:

#### 1. Expression

In the field of creative expression, it has been claimed that the broadcasting of student programs over school program-distribution systems:

- a. Provides students with an additional outlet for creative expression, which combines the familiar skills and techniques of the stage with other skills and techniques unique to radio.
- b. Provides extended opportunities, beyond those afforded by the auditorium stage, for students to participate in the dramatic arts.
- c. Tends to develop, on the part of students, an appreciation of radio drama as a distinct form of art.
- d. Tends to develop genuine radio-program discrimination by making students conscious of the attributes which make for superior quality in any radio program.

#### 2. Service

Definite service values have been claimed for certain

<sup>1</sup> R. R. Lowdermilk. School Radio Sound System pp 41-42



H. H. Loeberle is "The School Radio Sound System" in  
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#### F. Experimental

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 with other skills and techniques unique to

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B. Provides extended opportunities, beyond those  
 afforded by the traditional stage, for students  
 to participate in the dramatic arts.

C. Tends to develop, on the part of students,  
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#### G. Service

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H. H. Loeberle, "School Radio Sound System" pg 41-42

types of broadcasts produced by student groups, such as:

- a. Broadcasts designed specifically for use by other student groups as programs for supplementing classroom instruction.
- b. Broadcasts designed for use by other student groups within the school as recreational or entertainment programs.
- c. Broadcasts designed for interpreting the work and purposes of the school to parent organizations.

### 3. Training

It has been claimed that preparation and broadcasting of student programs over school program-distribution systems tends to:

- a. Develop, on the part of participating students, effective style in verbal expression.
- b. Develop, on the part of participating students, the basic skills and understandings that are involved in radio-program production.
- c. Train students for participation in educational or public-service broadcasts produced over the facilities of local broadcast stations.



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- c. Train students for participation in educational or public-service programs produced over the facilities of local broadcast stations.

- d. Make students of listening groups somewhat more conscious of the characteristics of effective oral expression.

#### 4. Integration

Finally, it has been claimed that preparation and broadcasting of student programs over school program-distribution systems tends to:

- a. Emphasize the importance of group planning and cooperative effort.
- b. Create an area of student activity which combines skills and understandings developed in each of the several departments of instruction within the school.
- c. Provide a unifying core around which the work of extra-curricular groups related to broadcasting can be organized."

A committee of teachers and pupils should determine the policy for the production of student broadcasts. They should determine:

1. The time of day for broadcasts
2. The frequency of programs
3. The subject or type of broadcast; i.e., a Thanksgiving program or a series of broadcasts prepared by the science department.



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- CHAPTER VIII  
CONCLUSION
4. Who shall participate
  5. Who shall listen
  6. Length of broadcasts.

Once these policies have been established, the English teachers usually take the lead in teaching script writing, the motivation to write is real, spontaneous and effective. Every pupil would like to have his script produced. Sometimes, scripts can be the work of one pupil or the cumulative offering of a whole class.

Imitation and mimicry are inherent in all children, and once they know there is a possibility of going "on the air" it is easy to give instructions in pronunciation, enunciation, phrasing of words, pitch of voice, and the other qualities so necessary to a public speaker.

The possibilities in student broadcasting in secondary schools are endless, and it can be done just as successfully in elementary schools, except that it requires closer supervision on the part of the teacher. Story scripts, dramatic scripts, quiz programs, can be prepared by young children, and the older children are delighted to listen to their young friends.

The public address unit can become a miniature radio system, serving to integrate the curricular and extra curricular interests and provide opportunities for growth in social skills.



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## CHAPTER VIII

## CONCLUSION

A central sound system is an educational device that offers creative and imaginative teachers, a method of making instruction more vital, more interesting, and more meaningful. However, in some schools, the administrator and teaching staff are not prepared to utilize this modern teaching tool and are making no effort to discover its uses. Therefore, the following recommendations are offered to the administrator who is planning to install a central sound system:

- 1) Purchase equipment that will serve the specific educational and administrative needs of students, teachers, and principal.
- 2) Delegate the responsibility for operating the system to a faculty member who will be responsible for its maintenance and who will cooperate with students and faculty.
- 3) Appoint a committee of faculty members to formulate a policy for the use of the public address unit, the radio unit, the recording unit, and the recording playing unit.
- 4) Devise some method of "in service" training for teachers so as to acquaint them with the many and varied possibilities of the system. It is not enough for a teacher to know the mechanical operation of the system. It might be well to devote a series of meetings, with teachers reporting on the



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current practices in the use of radio in education, script writing, program production, how to make good recordings, and the like.

- 5) Appoint committees of students and faculty members to plan a definite program for each unit.
- 6) Encourage student activities, such as student broadcasts of announcements, pep talks and special reports, script writing groups, "radio technicians," etc.
- 7) Establish joint control of the central sound system program by the principal, faculty and students, so that the educational results will justify the installation.



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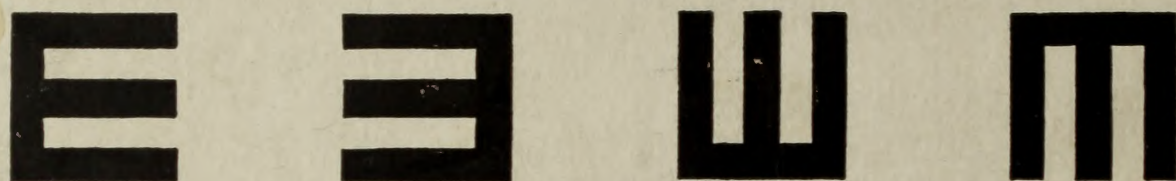


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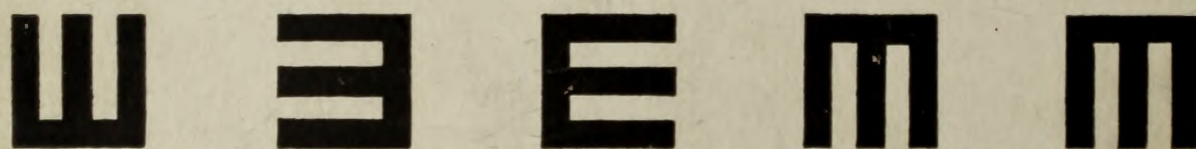
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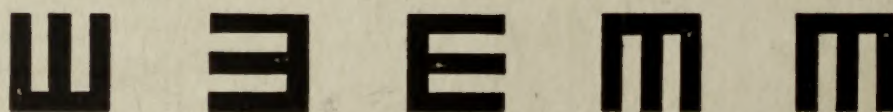
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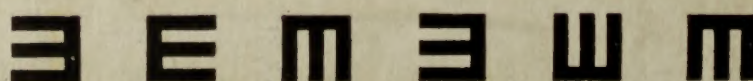
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